REMARKS

In an office action mailed March 27, 2001, the Examiner has stated that the applicant is in condition for allowance except for an objection to the abstract of the disclosure.

Although the claims are in condition for allowance, the applicant respectfully requests that the Examiner please enter the above amendments to claims.

Applicant has revised the abstract to better comply with MPEP §608.01(b). If the Examiner believes a telephone conference would expedite or assist in the allowance of the present application, the Examiner is invited to call Stephen Neal at (408) 720-8300.

If any fee is due not covered by any check submitted please charge Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN

Date: May 29, 2001

Stephen T. Neal
Reg. No. 47,815

12400 Wilshire Boulevard
Seventh Floor
Los Angeles, CA 90025-1026
(408) 720-8300

ABSTRACT OF THE DISCLOSURE

[A number of service DSP engines form an array or matrix wherein the service DSP engines are coupled to a master DSP engine using a channelized serial bus. The master DSP engine controls a memory comprising a number of firmware algorithms used in processing a number of types of data.] A system and method for making available on a dynamic basis a large library of different firmware processing algorithms to each DSP processor engine of a DSP processor array is disclosed. [The] A master DSP engine continuously broadcasts the firmware algorithms used in processing a number of types of data from an attached memory to [the] service DSP engines over the channelized serial bus. The DSP array receives PCM data from multiplexed lines of a public switched telephone network and packetized data from an Internet Protocol (IP) network[.] , then each service DSP engine [The data may include, but is not limited to, modem data, voice data, audio data, video data, and facsimile data. The data is provided to one of a number of service DSP engines of a DSP array. Upon receipt of the data, each service DSP engine determines the type of the received data and] determines a firmware algorithm required to process that type of data[]received. The service DSP engine processes the received data using that firmware algorithm. [then determines an address of at least one channel of the channelized serial bus on which the required firmware algorithm is available and unmasks a corresponding bit of an interrupt mask in the service DSP engine. In response to receipt of an interrupt signal corresponding to the unmasked interrupt bit, the service DSP engine executes an interrupt service routine resulting in the receipt and storage of the corresponding firmware algorithm

from the master DSP engine. The service DSP engine processes the received data using the received firmware algorithm. When the data received by the service DSP engine is PCM data received from the PSTN, the service DSP engine produces packetized data for communication over the IP network. When data received by the service DSP engine is packetized data received from the IP network, the serive DSP engine produces PCM data for communication over the PSTN.]

IN THE CLAIMS:

54.   A computer readable medium containing executable instructions which, when executed in a processing system, causes the system to perform [the steps for] digital signal processing (DSP) of a plurality of data types comprising:

continuously broadcasting a plurality of firmware algorithms to a plurality of DSP engines over a channelized serial bus; and

selectively monitoring for and receiving at least one firmware algorithm of the plurality of firmware algorithms by at least one of the plurality of DSP engines, wherein the at least one firmware algorithm is used to process data of at least one corresponding data type received by the at least one of the plurality of DSP engines over at least one data line.

55.   The computer readable medium of claim 54, further causing the system to perform [the steps of]:

receiving at least one pulse coded modulation (PCM) data stream from a public switched telephone network (PSTN);

generating at least one packet of data from the PCM data stream using the received at least one firmware algorithm; and

transmitting the at least one packet of data over an Internet Protocol (IP) network.

56.   The computer readable medium of claim 54, further comprising [the steps of]:

receiving at least one packet of data from an IP network;

generating at least one PCM data stream from the at least one packet of data using the at least one firmware algorithm; and

transmitting the at least one PCM data stream over a PSTN.

58.   The computer readable medium of claim 57, wherein [the step of] selectively monitoring for and receiving at least one firmware algorithm comprises [the steps of]:

determining a data type of the data received into at least one of the plurality of service DSP engines;

determining at least one firmware algorithm required to process the received data;

determining an address of at least one channel of the serial bus on which the required at least one firmware algorithm is available.

59.   The computer readable medium of claim 58, wherein [the step of] selectively monitoring for and receiving at least one firmware algorithm further comprises [the step of] unmasking a bit of an interrupt mask in the at least one of the plurality of service DSP engines, the unmasked bit corresponding to the address of at least one channel of the serial bus on which the required at least one firmware algorithm is transmitted.

60.   The computer readable medium of claim 59, wherein [the step of] selectively monitoring for and receiving at least one firmware algorithm further comprises [the steps of]:

executing at least one interrupt service routine in response to receiving an interrupt signal corresponding to the unmasked interrupt bit;

receiving the at least one firmware algorithm in response to execution of the interrupt service routine; and

storing the received at least one firmware algorithm in a memory of the service DSP.